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THE BATTLE FOR HUE:

CASUALTY AND DISEASE RATES DURING URBAN WARFARE

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SUMMARY

Problem

Renewed nationalism with the ending of the Cold War has precipitated numerous conflicts between regions or countries which were formerly united. Hostilities between some ethnic and nationalistic factions have reached the point where regional security is threatened and United Nations military operations are required.

Objective

Because some U.N. operations may require the forcible removal of entrenched factions from urban settings, the present investigation seeks to determine the levels of medical casualties that might be sustained during urban warfare.

Approach

Casualty rates and illness incidence were examined for U.S. Marine forces participating in the re-taking of the city of Hue during the Tet offensive in 1968. The casualty rates were analyzed for different phases of the urban assault and contrasted with a different period of the Vietnam Conflict, and with the high intensity battle for Okinawa during World War II.

Results

Rates of casualties during the re-taking of Hue were highest during the two phases of the operation which required close-quarter fighting. The house-to-house fighting south of the river yielded a wounded rate of 37.9 per 1000 strength per day, while the fighting in the Inner City yielded a rate of 44.4. Rate of wounded during the "mopping-up" phase was 5.8. The rate of illness incidence was stable over the month-long operation and showed no concomitant increase with battle intensity.

Conclusion

Rates of casualties during a U.N.-led military operation may likely be high. It is essential that medical resource requirements be anticipated and pre-positioned prior to the first casualties being sustained.

The Battle for Hue: Casualty and Disease Rates During Urban Warfare

Renewed nationalism with the ending of the Cold War has yielded an explosion in internecine strife between countries or regions which were once united. Hostilities between Armenia and Azerbaijan, Turkey and Kurdistan, Pakistan and India, rival clan leaders within Somalia, and Yugoslavia and the surrounding republics have all erupted with deadly consequences. At the same time, the world community has put increasing pressure on the United Nations (U.N.) to take on the roles of disarming troops and "enforcing" peace in addition to its traditional peacekeeping function of monitoring cease-fire lines.

When opposing sides are intransigent, peacemaking or peace-enforcing may require U.N.-led military troops to forcibly end hostilities and impose a settlement between warring factions. Further, the use of such military force will at times likely need to be applied to cities and villages where one faction is firmly established. Therefore, it is quite possible that U.S. Marines, in addition to their amphibious power projection and crisis response functions, may be called upon to participate in an U.N. operation in which a goal is to force an entrenched enemy from an urban setting.

The present investigation examines rates of casualties and disease incidence incurred by U.S. Marines in the retaking of the city of Hue during the Vietnam Conflict. Hue was the ancient imperial capital and cultural seat of Vietnam. The city was divided by the Huong River into two main sections (See Figure 1)[1]. The area south of the river was residential and also included City Hall, Hue University, the train station, a Military Assistance Command, Vietnam (MACV) compound and other administrative agencies. The area north of the river contained the walled portion of Hue known as the Citadel. The Citadel was surrounded by canals and moats and was the site of the imperial palace. The barrier around the Citadel formed a 2,500 meter square and consisted of an outer stone wall five meters high and one to three meters thick, as well as an inner wall separated by dirt fill. In addition to the imperial palace, the Citadel contained an airport, houses, markets, and a large number of buildings. The North Vietnamese Army (NVA) infiltrated the city and took control as part of the Tet Offensive at the end of January, 1968. The urban assault that followed required the use of three Marine infantry battalions and 13 South Vietnamese battalions and lasted for one month.[2,3,4] Given this duration and requisite force, the Hue operation has applicability to estimating the levels of casualties which might be sustained in a U.N.-led military operation within an urban environment.

METHOD

Medical incidence data were extracted from Unit Diaries of the three U.S. Marine infantry battlions (1/1/1, 1/5/1, 2/5/1) which

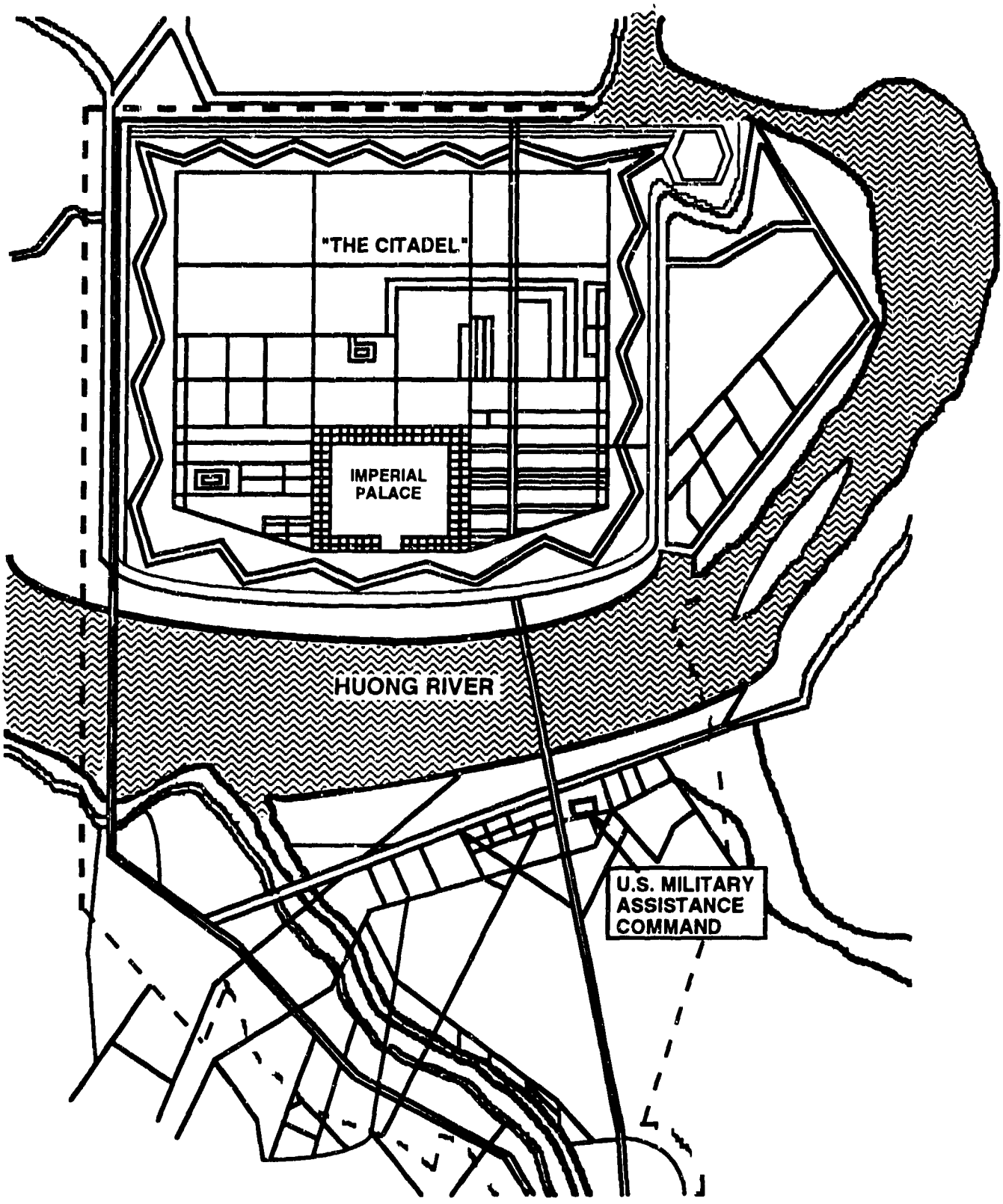

Figure 1. Schematic of the city of Hue, Vietnam

participated in the Battle for Hue. Unit Diaries, which are housed at Records Service Section, Headquarters U.S. Marine Corps, Quantico, VA, include the number of wounded in action (WIA), killed in action (KIA), Disease/Nonbattle Injuries (DNBI), dates of the casualties, and unit strength. Daily rates of wounded, killed, and DNBI incurred during the re-taking of Hue were computed and contrasted with pre- and post-Hue operations. Casualty and DNBI rates were calculated per 1000 strength per day.

Additionally, rates of casualties and DNBI were examined for three separate phases of the operation in which U.S. Marines were involved: 1) Fighting south of the Huong River, 2) Fighting in the Inner Citadel, and 3) Pursuit and "mopping up". Rates during the Hue battle were also contrasted with casualty incidence of the four-month period of peak U.S. Marine involvement in Vietnam (May through August 1968), as well as with rates sustained during the high intensity assault on Okinawa (April through June 1945). Muster Rolls, from which the Okinawa data were extracted, are maintained at the National Archives, Washington D.C.

RESULTS

CASUALTY RATES

Figure 2 is a display of the casualty rates of participating infantry units before, during the Battle of Hue (January 31 - March 2), and after the city was retaken. The daily wounded rate for these units during the 32 days of the battle was 17.5 per 1000 strength, and ranged from 1.6 to 45.5. The daily KIA rate was 2.2 and ranged from 0.0 to 9.6. For comparison purposes, casualty rates sustained during the assault on Okinawa are shown in Figure 3. The daily wounded rate during the Okinawa assault was 6.57 per 1000 strength and ranged from 0.0 to 31.8. The daily KIA rate was 1.35 and varied between 0.0 and 6.4. Also shown for comparison purposes are the pulses and pauses in casualty incidence during the four-month period in which Marine involvement peaked in Vietnam (See Figure 4). The daily wounded rate during this period was 2.50, ranging from 0.0 to 13.9 while the KIA rate was 0.31.

Daily casualty incidence among troops involved in fighting in the urban area south of the river are graphed in Figure 5. The daily wounded rate during this first phase of the battle was 37.9 per 1000 strength, while the KIA rate was 3.1. The average strength during this eight-day period was 755 troops. Figure 6 is a display of the casualty rates for the five individual companies fighting south of the river; all but one company had a wounded rate which exceeded 35 per 1000 strength per day.

Figure 7 shows the daily casualty incidence among Marines fighting inside the Citadel during the second phase of the battle for Hue. The wounded rate during this ten-day period was 44.4 per 1000 strength per day, while the KIA rate was 7.8. The average strength during this phase inside the Citadel was 615 troops. Casualty rates among the individual companies fighting in the Citadel are shown in Figure 8; rates of WIA requiring evacuation ranged from 23 to 35 per 1000 strength per day.

Fluctuations in casualty incidence among troops during the mopping up phase of the battle for Hue are shown in Figure 9. The wounded rate during this seven-day period

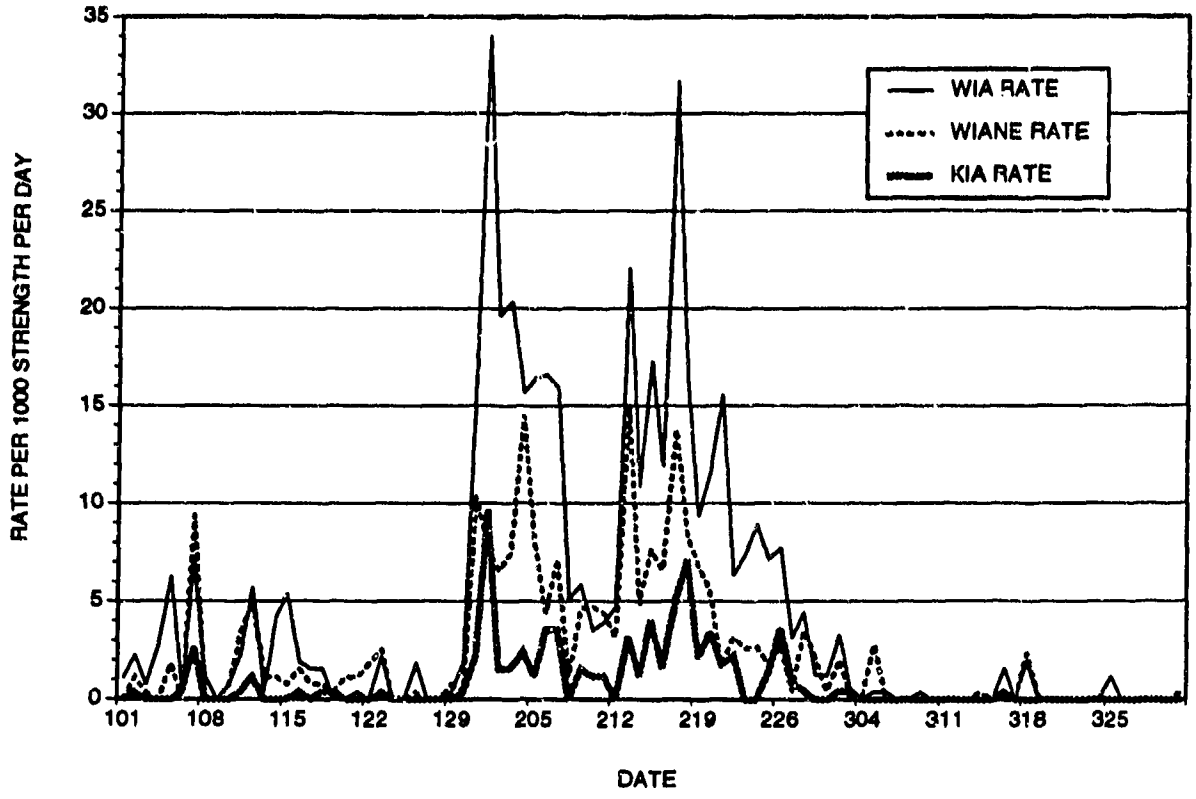

Figure 2. Rates of wounded in action (WIA), wounded not evacuated (WIANE), and killed in action (KIA) among infantry battalions participating in the battle for Hue (January 31 - March 2)

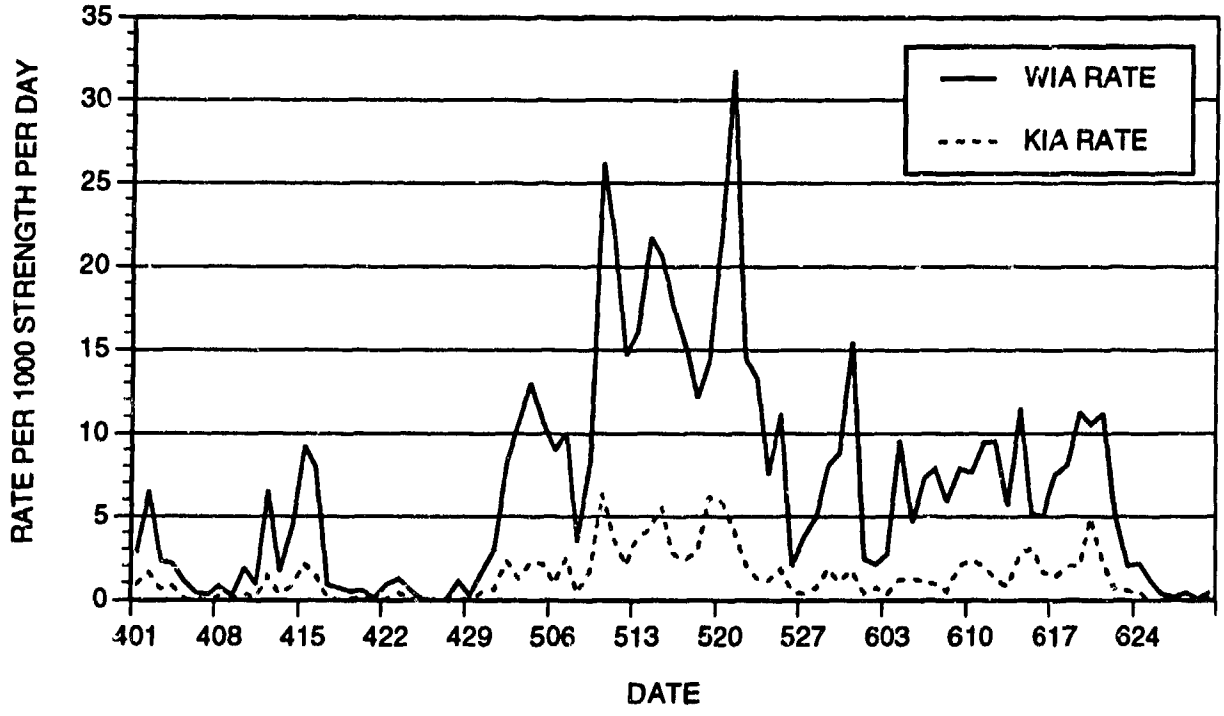

Figure 3. Presentation rates of wounded in action (WIA) and killed in action (KIA) among infantry battalions during the Okinawa Operation (1945)

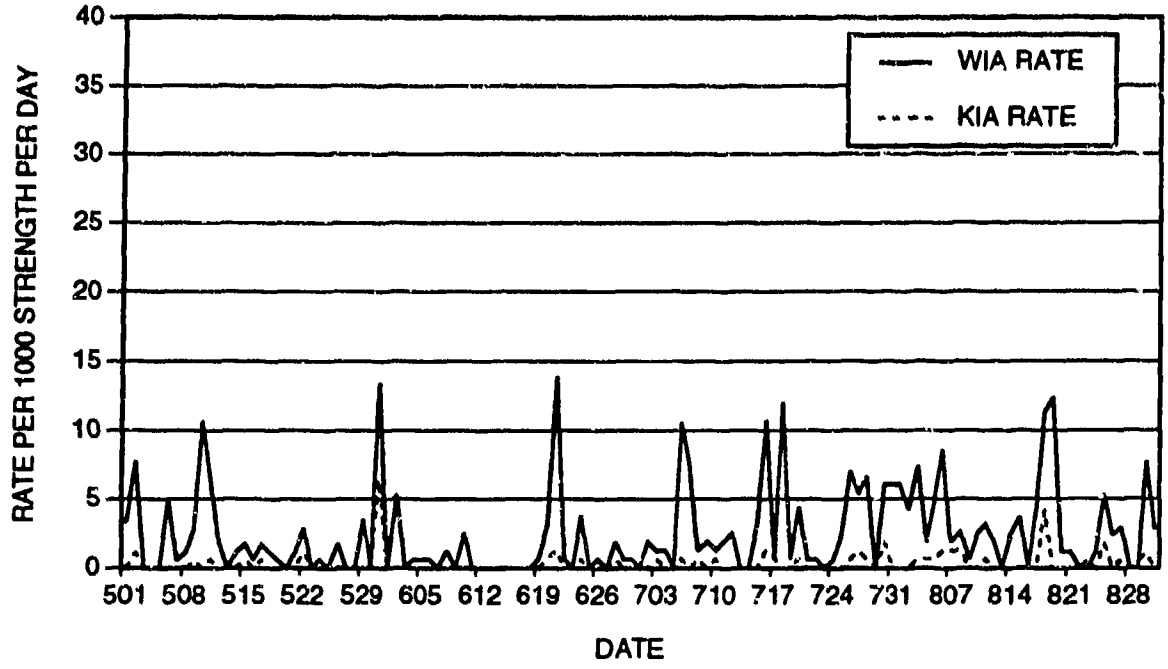

Figure 4. Presentation rates of wounded in action (WIA) and killed in action (KIA) among infantry battalions during a four month period of the Vietnam War (1968)

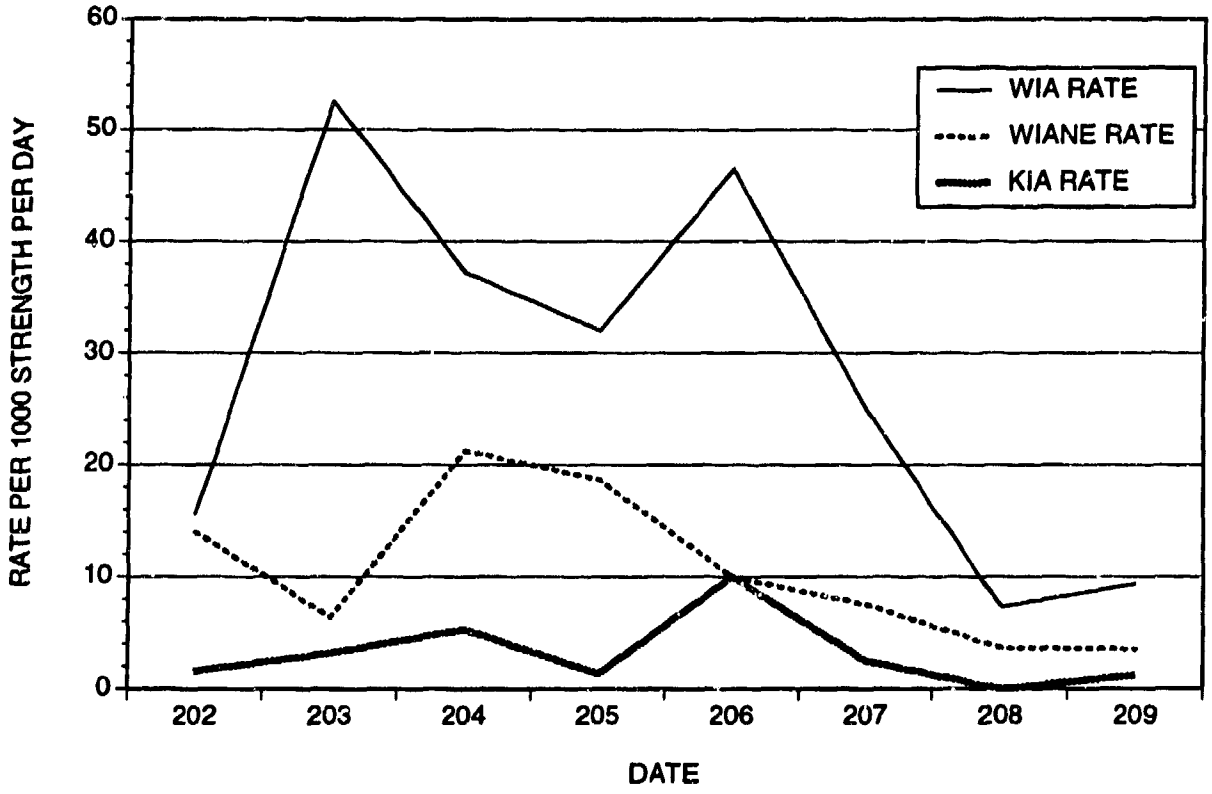

Figure 5. Rates of wounded in action (WIA), wounded not evacuated (WIANE), and killed in action (KIA) during the operations across the river at the battle for Hue

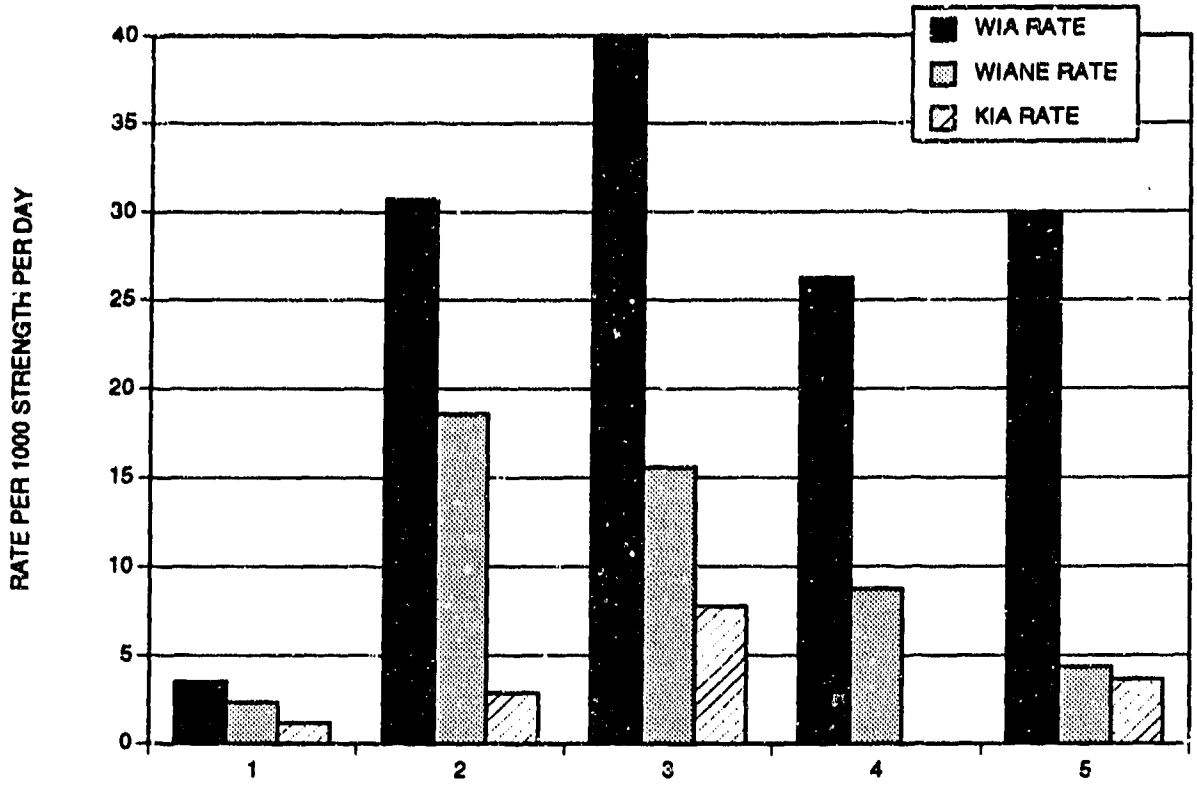

Figure 6. Rates of wounded in action (WIA), wounded not evacuated (WIANE), and killed in action (KIA) among five individual companies involved in Hue operations south of the river

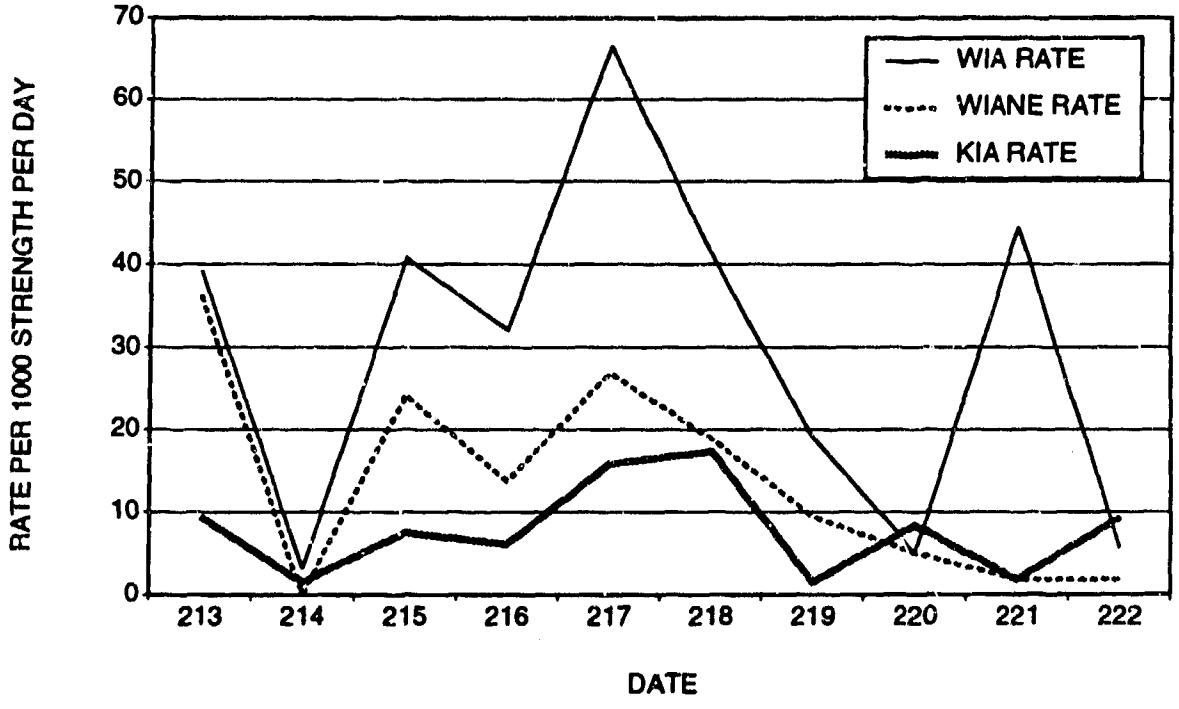

Figure 7. Rates of wounded in action (WIA), wounded not evacuated (WIANE), and killed in action (KIA) during operations inside the citadel at the battle for Hue

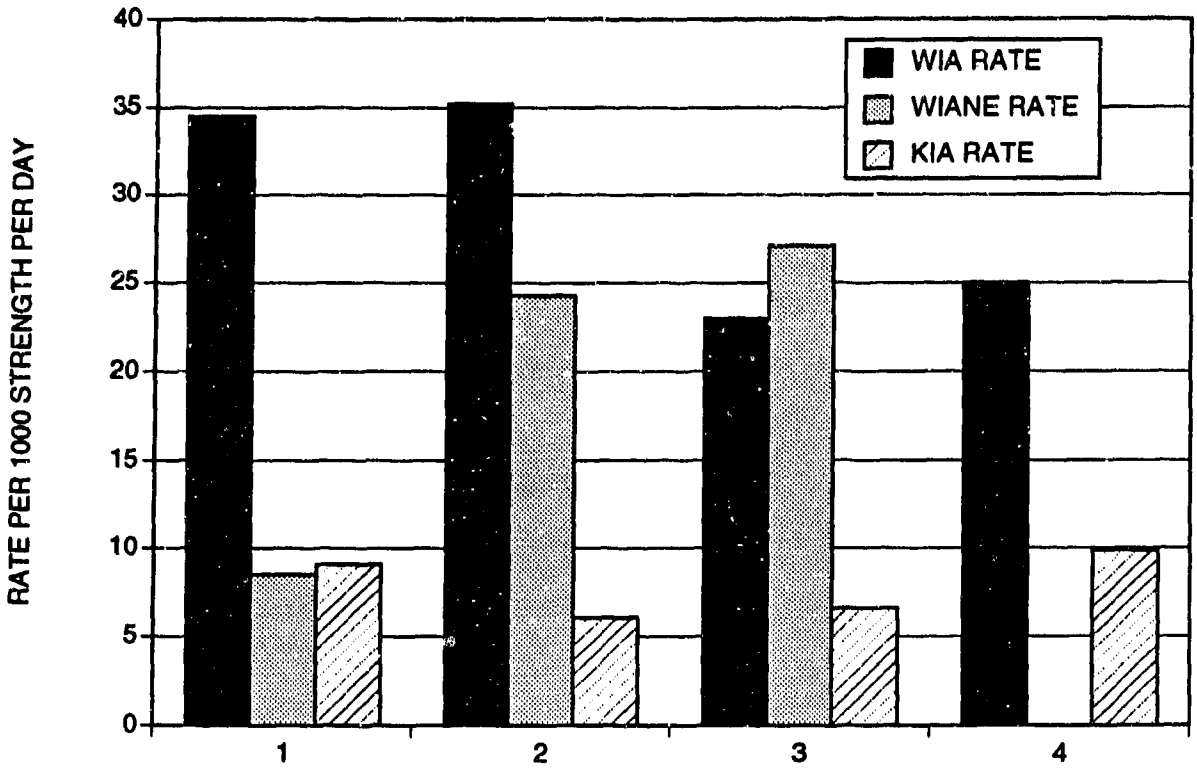

Figure 8. Rates of wounded in action (WIA), wounded not evacuated (WIANE), and killed in action (KIA) among four individual companies involved in Hue operations inside the citadel

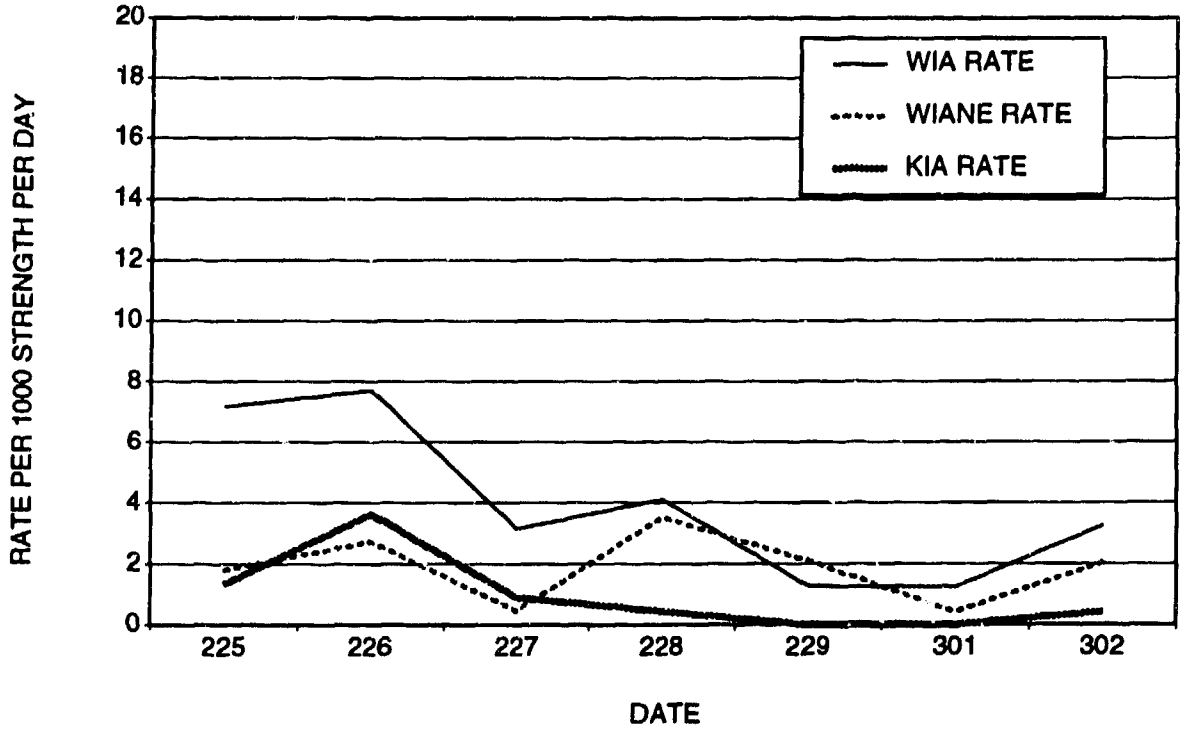

Figure 9. Rates of wounded in action (WIA), wounded not evacuated (WIANE), and killed in action (KIA) during mopping up operations at the battle for Hue

was 5.8 per 1000 strength per day, while the KIA rate was 0.93. The average strength during this phase was 2315 troops. Casualty rates among individual companies are shown in Table 1.

Figure 10 contrasts casualty rates of rifle/tank companies with Headquarters & Service (H&S) companies across the three phases of the battle; rates for H&S companies are from the mopping up phase exclusively. Daily rates of wounded among rifle companies exceeded 25 per 1000 strength during the three defined periods of the retaking of Hue.

Table 1. Comparisons of wounded in action (WIA), wounded not evacuated (WIANE), and killed in action (KIA) among individual companies involved in mopping up operations in the fighting for Hue.

	Rate per 1000 per day		
Company	WIA	WIANE	KIA
1	0.00	0.80	0.00
2	0.42	0.00	0.00
3	5.30	6.36	0.00
4	23.69	11.85	2.96
5	10.69	0.89	4.46
6	1.27	1.69	0.00
7	7.13	4.07	6.11
8	6.19	0.88	0.00
9	0.00	0.00	0.00
10	0.00	0.00	0.00
11	1.91	0.00	0.00
12	1.46	0.49	0.49
Overall	3.95	1.85	0.93

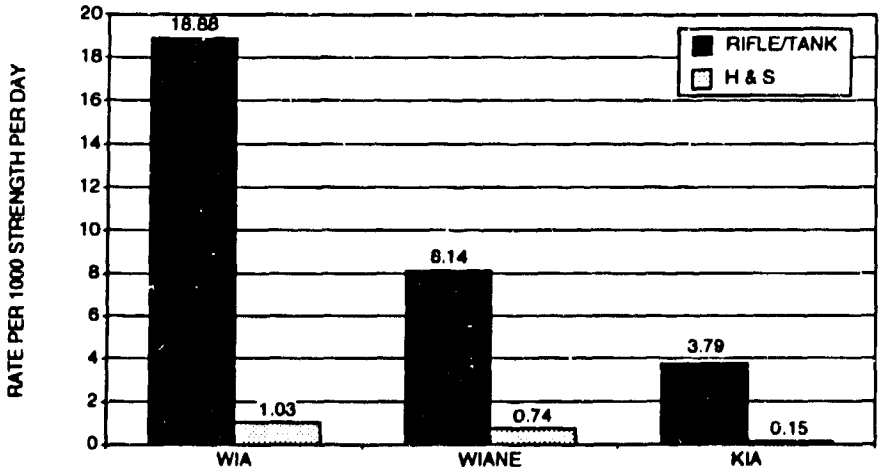

Figure 10. Comparisons of wounded in action (WIA), wounded not evacuated (WIANE), and killed in action (KIA) between Rifle/Tank Companies and Headquarters & Service (H&S) Companies involved in the fighting for Hue.

DNBI RATES

Illness incidence during the battle for Hue was also examined and contrasted with DNBI incidence during the Okinawa assault and with another period of the Vietnam Conflict. Figure 11 is a display of the daily Disease/Nonbattle Injury (DNBI) rates and casualty (wounded and killed) rates among the battalions before, during, and after the Battle for Hue. While there were great fluctuations in the casualty rate during the battle for Hue, the DNBI rate was relatively stable over the three month period incorporating the Hue fighting. The DNBI rate was 0.92 per 1000 strength per day in the month prior to Hue, 0.98 during the Hue battle, and 0.92 in the month following the Hue battle.

The lack of major DNBI pulses during the re-taking of Hue is in contrast to large variations in DNBI incidence during the heavy intensity of the Okinawa assault. The rises in DNBI incidence paralleling increases in casualty rates are shown in Figure 12. The DNBI rate over the course of the 90 day Okinawa operation was 4.56 per 1000 strength per day. Figure 13 shows the DNBI and casualty incidence among infantry battalions during peak Marine involvement in Vietnam; as with the Hue data, DNBI incidence was relatively stable over the four-month period. The DNBI rate between May and August 1968 was 1.78.

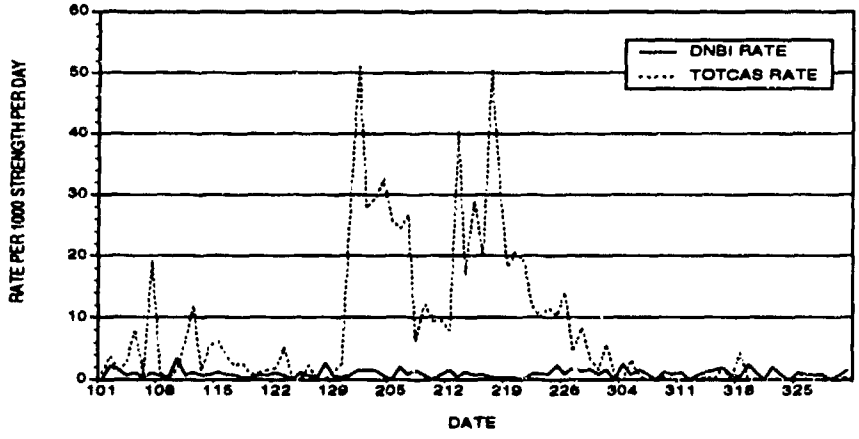

Figure 11. Rates of disease and non-battle injuries (DNBI) and casualties among infantry battalions before, during, and after the battle for Hue.

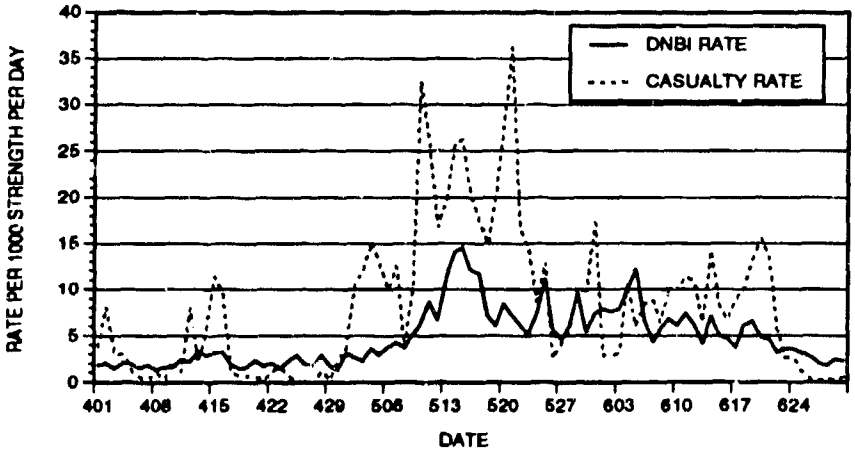

Figure 12. Rates of disease and non-battle injury (DNBI) and casualties among infantry battalions during the Okinawa Operation (1945)

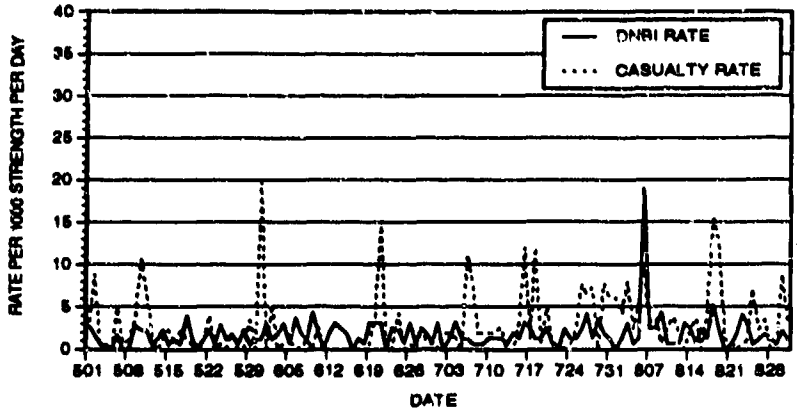

Figure 13. Rates of disease and non-battle injury (DNBI) and casualties among infantry battalions during a four month period of the Vietnam War (1968)

DISCUSSION

Tensions between nationalistic and/or ethnic factions in the former Republic of Yugoslavia, Cambodia, Central Asia, and the Middle East have increased dramatically with the end of the Cold War. The recent outbreaks of hostilities make it increasingly likely that United Nations members may vote to mount a military operation to make and enforce peace in one or more of these strife-ridden regions. Given the geographical areas where tensions are highest, it is also quite possible that a U.N.-led force may be called upon to drive a recalcitrant faction from an urban setting.

The present investigation examined rates of casualties and illness incidence sustained in the re-taking of the city of Hue during the Vietnam Conflict. Hue was the cultural capital and third largest city in Vietnam. During the Tet offensive of 1968, a division-sized force of the North Vietnamese Army infiltrated and took control of most of Hue. Three U.S. Marine battalions and 13 South Vietnamese battalions were involved in the fighting to regain the city. U.S. forces fought house-to-house in the battle south of the Huong River and would withdraw to the MACV compound at nightfall only to have snipers come back in and re-claim positions. Fighting was at close quarters and slow, but after eight days the enemy was routed. Shortly thereafter, U.S. Marines moved into the inner city and fought to regain the southeast section. The WIA rates during the fighting south of the river and within the Citadel were, respectively, 37.9 and 44.4 per 1000 strength per day.

While a relationship between battle intensity and DNBI rates has been previously established[5], there was no increase in DNBI incidence during the Hue offensive. Previous research suggested that the relationship between battle intensity and DNBI rates weakened with the tempo of the conflict. Apparently, increases in battle fatigue cases and illnesses tied to high levels of battlefield stress are more a function of sustained high intensity operation rather than a high intensity battle within a light-to-moderate intensity conflict.

Extensive medical resource planning for projected casualty and illness incidence during urban warfare is essential. While the demands of treating the DNBI cases among a U.N. force may be relatively minimal, the resources required to treat casualties sustained in close-quarter fighting are great.

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13. ABSTRACT *(Maximum 200 words)*

Daily rates of casualty and illness incidence sustained in the re-taking of the city of Hue during the North Vietnamese Tet Offensive of 1968 were examined. The daily wounded rate for the U.S. Marine battalions involved was 17.5 per 1,000 strength, and ranged from 1.6 to 45.5. The killed-in-action rate per 1,000 strength per day was 2.2, and ranged from 0.0 to 9.6. The wounded rate during the urban warfare of Hue was three times higher than during the high intensity battle for Okinawa and six-fold the wounded rate during normal Marine operations at the peak of the Vietnam Conflict. The disease/nonbattle injury (DNBI) rate remained steady over the course of the Hue operation at approximately 1.0 per 1,000 strength per day.

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